EC Optical Wireless Communication (3 0 0 3)

UNIT-I 9

Introduction to Optical Wireless Communication: Optical communication systems- wireless access- Need of optical wireless communication-block diagram-challenges- Application -Optical sources-optical detectors-Optical Detection Statistics

UNIT-II 9

Optical wireless communication theory - channel modeling - Indoor optical wireless communication channel-LOS propagation model-Spherical and Guassian wave model-outdoor channel- Attenuation-Beam Wander-Turbulence (Scintillation/Fading)-Turbidity (rain, fog, snow)-Cloud-free line of sight-log normal negative exponential- gamma-gamma turbulence model-modulation schemes for optical wireless-Analogue intensity modulation-Digital base band-pulse modulation-subcarrier intensity modulation –optical polarization shift keying- BER performance analysis

UNIT-III 9

Free space optical communications: Introduction-operating principles-characteristics-Qos and availability--FSO OFDM communication-FSO underwater- Free space optical networks-laser satellite communication.

UNIT-IV 9

Coded modulation techniques for OWC- Coded MIMO for OWC- Indoor OWC MIMO channel-Point to point OW MIMO communications- MIMO FSO-Wireless optical CDMA Communication system-System description-indoor wireless optical CDMA-FSO CDMA

UNIT-V 9

Visible light communications- VLC principle- VLC system model- system implementation-VLC applications

Infrared optical wireless communications - Optical wireless in sensor networks- FSO Sensor networks.

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Mrs. RB/BM - Senate approval